January 8, 2003

MODIS sensor Working Group (MsWG) Summary

Attendance: Bob Barnes, Stuart Biggar, Roger Drake, Bob Evans, Bryan Franz, Bruce Guenther, Shaida Johnston, Gerhard Meister, Chris Moeller, Vince Salomonson, Junqiang Sun, Gary Toller, Jack Xiong, Eric Vermote, Zhengming Wan, Joe Esposito

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Scheduled Items

Item 1 Instrument Status

Aqua and Terra

JX) Both instruments are very stable and performing fine.

Calibration Summary:

SD:

	Terra:	bi-weekly
	Aqua:	weekly (at one year change to bi-weekly)
SRCA:	Radiative:	monthly
	Spatial:	bi-monthly
	Spectral:	quarterly
Lunar:		monthly (some months are not possible due to constraints on the phase angle)
BB warm/cool:		quarterly
Ecal:		bi-monthly

Terra Yaw Maneuvers (repeat of 2000116/117 Yaw Maneuvers):

One set completed (SDS Open) on December 5 and December 11.

Second set (SDS Closed) to be done January 15 and 16th.

Aqua Yaw Maneuvers (First Yaw activity):

Both sets (2 days SDS Open and 2 days SDS Closed) completed

Terra B28, a new noisy detector:

JX) Band 28, detector 8 (product order) has become noisy (Detectors 2, 3, and 8 are now noisy

BG) Does [an increased] NEdN of B28 imply an increase in the NEdN of the RSB SWIR due to cross talk or correction of the SWIR optical cross talk. This could have an impact on the SWIR science.

CM) Bruce's concerns on noise are justified. We should look at the effect of SWMIR noise on the SWIR in L1B.

JX) We can look into this at the next MODIS meeting. Downloaders of the data have expressed concerns over the striping in the SWIR.

BG) Special topics for the meeting should be collected – Add "does science improve by averaging across noisy detectors." (*MCST Action: prepare briefing package on noise in the SWMIR*)

MCST related issues

JX) Other things being done:
Did Wisconsin receive the package for evaluating the sending band and detector?
MCST is waiting for the second Terra yaw set.
MCST sent newest RSB LUTs to Miami for evaluation.
MCST originally found a 10% difference in Aqua compared to Terra in Lunar data analysis but the difference greatly reduced (2%) when results from Kiefer were used. MCST is waiting for newer results from Kiefer.

SB) Arizona is trying to understand the RSR for use in corrections when comparing vicarious data.

BG) Not clear that 2% Aqua to Terra can be done well enough using Kiefer's results (Kiefer has 3% uncertainty according to Jim Butler).
We could use little VIIRS (TRMM). It is close to the SWIR wavelengths.

JX) If the workshop is within 60 days (VS: March) then send suggestions for special topics to Vince and me.

CM) You mentioned that the BB warm-up/cool down is quarterly. How many calibrations have been done for Aqua? (JX – about 5 wu/cd for Aqua). I am curious if Aqua is similar to Terra (MSCN, etc…), (JX – Did not see this in Aqua). Then are a_0 and a_2 stable?

BG) a_0 is stable and much smaller on Aqua but remember that a_0 is set to zero on Aqua therefore a_0 will not affect Aqua. There are 3 bands that saturate above 300°K.

CM) Preliminary looks at clouds are okay.

BG) Running temperature variations (BB cal) every 3 months will yield a permanent record in the database.

CM) Could MCST send recent BB calibration data and times (*MCST Action: send recent BB wu/cd calibration data and times to Wisconsin*).

Around the Table

Participant: Bruce Guenther – Carol Brugge has invited me into the collaboration doing instrument comparisons.

Participant: Bob – Barnes – When will the Terra, Aqua, and SeaWifs 25° Lunar look be scheduled?

VS) The date has not been decided yet.

BB) MISR and ASTER are also into doing a lunar look.

SB) At the ASTER meeting it was stated that there would be 2 weeks between the deep space maneuver and the lunar look

Participant: Gerhard Meister – What are the results of the MCST-Miami meeting?

JX) The action from discussions is to use measured m1 and Miami will look at the effect

BE) We have run m1 on the level 2.

SJ) Need to set up a system to deliver LUTs every two weeks rather than using "emergency" to install new LUTs.

Participant: Bob Evans – Outside of VIS 1 comparison done on Aqua SST4 and AIRS SST. There is a 0.1°K agreement. Both instruments are consistent with Miami analysis.

Participant: Chris Moeller – Wisconsin had a good campaign for Terra and clear data for Aqua (L1B). 11 μm agreement to tenths of a degree between MODIS and AIRS. For Aqua compared B-B on the same footprint. This is cleaner than SST. We haven't looked at 4 μm yet (the sun causes problems). We will look at Aqua over several months and compare to AIRS.

JX) Can HIRS/MODIS be done at B24?

CM) Accuracy of HIRS is 1°K. That is larger than we like.

Participant: Vince Salomonson – How does B26 look on Aqua?

CM) It looks much like Terra.

JX) Terra and Aqua B26 are similar. B5 and B7 are better (Aqua B6 has many dead detectors).

CM) Need to do thermal leak (B5 correction) to Aqua also. From imagery, the amplitude of the leak is the same for Aqua and Terra.

JX) The leak could be electronic or thermal (or both).

Next Meeting January 22nd